TIME
December 4, 1959

Smoking & Cancer (Contd.)

From painstaking ten-minute to half-hour microscopic examinations of each of 19,797 exquisitely thin slivers of tissue from human lungs, medical researchers reported last week that they had found the strongest anatomical evidence that heavy cigarette smoking is a potent cause of lung cancer. At the A.M.A.'s Dallas meeting, Dr. Oscar Auerbach of East Orange, N.J. told how he and a distinguished colleague, Dr. Arthur Purdy Sout (retired professor of pathology at Columbia University's College of Physicians and Surgeons), had examined the magnified tissue slides, cell by cell. Working with them were two statisticians, Dr. E. Cuyler Hammond and Lawrence Garfinkel, both of the American Cancer Society.

Virtually all previous evidence linking cigarettes with lung cancer has been based on epidemiological studies—retrospective checks on whether victims had been heavy smokers and prospective checks on whether many heavy smokers eventually died of the disease. Wanted, said critics of these studies, was anatomical evidence showing the gradual development of cancer in smokers' lungs. Dr. Auerbach's previous reports (1955 and 1957) on this development had been challenged on technical grounds. This time, his four-man team was determined to plug every conceivable research loophole.

Slicing the Tree. The pathologists removed the whole breathing apparatus ("tracheobronchial tree") from the bodies of 402 men who died in Veterans Administration Hospital in East Orange and in eleven New York hospitals (mainly in nonindustrial towns to reduce bias that might result from air pollution). It turned out that 63 of the men had died of lung cancer and 339 from other causes, but the pathologists did not know this until after they had finished their findings. Each "tree" was cut into 208 portions and embedded in paraffin. Fifty-five of these portions, chosen for microscopic study, were then sliced three microns thick.

The pathologists were looking for changes in the cells, along a spectrum from normal through slightly abnormal to precancerous and finally cancerous. There were many abnormalities that the pathologists rated as probably too minor to be significant; also, many patients had died of pneumonia or other lung diseases. Even including these cases, the pathologists found atypical cells in only 3.8% of slides from nonsmokers and 10.9% of those from occasional cigarette smokers.

Dormant Danger. But even moderate regular smoking went with a startling rise in the chart for atypical cells: for men who smoked less than half a pack daily, it soared to 90.6% of the slides. In the half-pack to one-pack bracket, it was 97%; for one to two packs, 99.3%; more than two packs, 99.6%; and in lung cancer victims, 99.7%.

For the various stages of progression toward overt cancer, the graphs showed a similar increase with heavier smoking. Cancer-type cells lying dormant but presumably capable of erupting into fatal disease were not found in any nonsmokers or occasional smokers. But they occurred in .3% of slides in the group smoking less than half a pack daily; .8% in the half-pack-to-a-pack group; 4.3% in the one-to-two-packs group; and 11.4% of slides from men smoking more than two packs.

If challengers of the link between smoking and cancer want (as they say) evidence based on people instead of statistics, this seems to be it.

LOS ANGELES TIMES
Los Angeles, California
December 5, 1959

CHANGES IN LUNGS OF SMOKERS CITED

DALLAS, Tex., Dec. 4 (AP) A Veterans Administration scientist today said tissue studies of 238 men who smoked more than a half pack of cigarettes daily showed cell changes which "probably represent a change toward cancer."

The Tobacco Research Committee immediately challenged the statements by Dr. Oscar Auerbach, an associate professor at New York Medical College and a staff member of the East Orange, N.J., VA hospital.

Dr. Robert C. Hockett of the tobacco committee said "these same observations first publicized by Dr. Auerbach in 1956 have not since been accepted by many other pathologists doing the same type of work and frequently studying many more lungs."

Reports to AMA

Auerbach's report was made at the annual clinical session of the American Medical Assn. meeting here.

He said lung cancer and conditions which lead to it "depend almost completely on the number of cigarettes smoked."

Tests were made on nearly 20,000 pieces of lung tissue from 402 men who died.

All the 63 who died of lung cancer were smokers, 60 of them using cigarettes, the report stated.

Of the 55 who did not smoke or were light smokers, few changes in lung cells were seen by Dr. Auerbach and a staff including Dr. Arthur Purdy Stout of Columbia University and Dr. E. Cuyler Hammond of the American Cancer Society.

Dr. Hockett of the tobacco committee disagreed, saying "recent contradictions to the Auerbach findings make three clear points:

"First, cell changes found in human lungs occur in young or old, smokers and nonsmokers. They are not limited to smokers.

"Second, lungs of heavy smokers may show no signs of such changes, so smoking does not necessarily lead to these changes.

"Third, many pathologists differ from Dr. Auerbach as to what is meant by a 'precancerous' condition or by 'cancer-in-situ' (change in lining of the lung which has not penetrated into the lung)."

1003543512
1003543512 A

Source: https://www.industrydocuments.ucsf.edu/docs/glcm0000